

<p align="center">5 SAMPLING</p>	<p align="center">Page 1 of 3</p>
<p align="center">Division of Forensic Science</p> <p align="center">CONTROLLED SUBSTANCES PROCEDURES MANUAL</p>	<p>Amendment Designator: B</p>
	<p>Effective Date: 7-August-2006</p>
<p align="center">5 SAMPLING</p> <p>5.1 Introduction:</p> <p>Sampling evidence is the most important initial step in forensic drug analysis. One must be sure that what is sampled is truly representative of the total population. The analyst must take into consideration the homogeneity (or lack thereof) among drug packaging (bags, packets, capsules, etc.) and its contents. Careful visual inspections and personal experience are essential in determining the proper sampling procedure.</p> <p>For items containing multiple specimens, statistically-based sampling models (e.g., hypergeometric distribution) will allow the analyst to analyze a portion of the specimens and subsequently make statistical inferences about the population. Alternatively, a fixed number of specimens within a population may be analyzed with the purpose in mind of meeting the requirements of a particular criminal charge (e.g., simple possession, distribution). In these instances, an inference to the entire population will not be drawn and the number of specimens that were analyzed will be indicated on the Certificate of Analysis.</p> <p>5.2 Administrative Sampling Plan:</p> <p>The administrative sampling plan will be used in cases to answer a specific legal question. If more specimens than listed below need to be analyzed for successful prosecution, additional analysis will be conducted upon written request from the Commonwealth's Attorney.</p> <p>5.2.1 Simple possession</p> <p>5.2.1.1 One specimen will be analyzed fully.</p> <p>5.2.1.2 All remaining specimens will be left intact in case further analysis is required.</p> <p>5.2.2 Possession with intent to distribute or distribution</p> <p>5.2.2.1 Items containing up to 5 specimens</p> <p>Each specimen will be analyzed separately and fully.</p> <p>5.2.2.2 Items containing greater than 5 specimens</p> <p>5.2.2.2.1 Five specimens will be analyzed separately and fully.</p> <p>5.2.2.2.2 The remaining specimens will be left intact in case further analysis is required.</p> <p>5.2.3 Cases with weight thresholds</p> <p>5.2.3.1 In instances where statutory or state sentencing guidelines have weight thresholds, enough specimens will be weighed and analyzed, separately and fully, to exceed the threshold. A list of these instances can be found in Appendix D.</p> <p>5.2.3.2 The remaining specimens will be left intact in case further analysis is required.</p> <p>5.2.4 Pharmaceutical preparations</p> <p>5.2.4.1 Due to the unique physical identifiers present in pharmaceutical preparations, a consistent sample population can easily be determined. The thoroughness represented by the sampling scheme used for street drugs is not required for pharmaceutical preparations which are clearly visually consistent with each other.</p>	

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<div data-bbox="315 291 1421 323" data-label="Text"> <p>5.2.4.2 For drug substances involving misdemeanor prosecutions, sampling is not normally required.</p> </div> <div data-bbox="315 354 1528 415" data-label="Text"> <p>5.2.4.3 For drug substances involving felony prosecutions, at least one representative sample must be analyzed fully.</p> </div> <div data-bbox="428 447 1450 508" data-label="Text"> <p>5.2.4.3.1 For tamperable dosage units, screen a sample chosen using the hypergeometric scheme described below utilizing TLC and/or color tests prior to fully analyzing one unit.</p> </div> <div data-bbox="526 539 1466 600" data-label="Text"> <p>5.2.4.3.1.1 If tampering is suspected, analyze dosage units utilizing the hypergeometric scheme.</p> </div> <div data-bbox="428 632 1528 722" data-label="Text"> <p>5.2.4.3.2 If the evidence is resubmitted for further analysis, resample and analyze using either the administrative sampling plan (Section 5.2.2) or the hypergeometric sampling scheme (Section 5.3) depending on the legal requirements.</p> </div> <div data-bbox="217 753 1536 814" data-label="Text"> <p>5.2.5 Exceptions to this Plan may occur only at the discretion of the Section Supervisors in consultation with the Section Chief.</p> </div> <div data-bbox="152 846 526 877" data-label="Section-Header"> <p>5.3 Hypergeometric Sampling:</p> </div> <div data-bbox="217 909 1536 999" data-label="Text"> <p>5.3.1 Hypergeometric sampling is a statistically-based model involving a defined confidence level with an associated probability of finding failures in a population (5.7.1, 5.7.2). The hypergeometric model is used for specimens with no significant markings or labels (e.g., the contents of plastic bags and bag corners, vials, and glassine packets.)</p> </div> <div data-bbox="315 1031 1536 1062" data-label="Text"> <p>5.3.1.1 Hypergeometric sampling may be used when additional analysis is requested for successful prosecution.</p> </div> <div data-bbox="315 1094 1536 1184" data-label="Text"> <p>5.3.1.2 The appropriate number of specimens within the population will be selected to give a 95% confidence level that at least 90% of the population contains the analyte of question. Refer to Appendix E of this manual.</p> </div> <div data-bbox="315 1215 1086 1247" data-label="Text"> <p>5.3.1.3 Each specimen sampled will be analyzed separately and fully.</p> </div> <div data-bbox="152 1278 891 1310" data-label="Section-Header"> <p>5.4 General Information for Samples with Multiple Specimens:</p> </div> <div data-bbox="217 1341 1536 1402" data-label="Text"> <p>5.4.1 Within any sampling scheme, Administrative or Hypergeometric, if the first set of observations determines that more than one population is present, further samples from each population must be taken.</p> </div> <div data-bbox="217 1434 1536 1495" data-label="Text"> <p>5.4.2 If presumptive testing indicates that no controlled substances are present in the samples chosen, a screening test must be done using the hypergeometric sampling scheme.</p> </div> <div data-bbox="315 1526 1536 1587" data-label="Text"> <p>5.4.2.1 For items consisting of specimens which are obviously non-controlled such as gum, candy or vitamins, a single representative sample may be screened.</p> </div> <div data-bbox="152 1619 396 1650" data-label="Section-Header"> <p>5.5 Bulk Materials:</p> </div> <div data-bbox="217 1682 1536 1743" data-label="Text"> <p>Bulk materials should be broken or cored to obtain a representative sample. Depending on the size of the material, samples from several locations may be required to obtain a representative sample.</p> </div> <div data-bbox="152 1774 420 1806" data-label="Section-Header"> <p>5.6 Residue Samples:</p> </div> <div data-bbox="217 1837 1536 1927" data-label="Text"> <p>Residues are samples which are either too small to be weighed accurately or that which remains after the bulk has been removed. Residues can be sampled by mechanical means (e.g., shaking or scooping) or chemical means (e.g., rinsing with solvent). Case notes must reflect the method by which the sample was removed.</p> </div>	

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<p>5.6.1 When possible, a sample should be removed while leaving a portion of the residue intact.</p> <p>5.6.2 When it is not possible to redeposit and return the residue as received, the extract used in analysis will be returned to the evidence as per the Quality Manual (Section 20.9.3).</p> <p>5.6.2.1 Procedure: Evaporate the solvent from the extract in the autosampler vial used in analysis. Seal the autosampler vial into a ziplock bag. Label the ziplock bag with the FS Lab #, Item #, initials and a statement similar to “vial and bag added at lab.”</p> <p>5.7 References:</p> <p>5.7.1 Shark, Robert E. “Sampling Your Drugs: A User's Guide”, Commonwealth of Virginia, Bureau of Forensic Science, Technical Brief, c. 1986.</p> <p>5.7.2 Frank, Richard S. <i>et. al.</i> "Representative Sampling of Drug Seizures in Multiple Containers." <i>Journal of Forensic Sciences</i>, JFSCA, Vol. 36, No. 2, March 1991, pp. 350-357.</p> <p>5.7.3 Colon, Maria <i>et.al.</i> “Representative Sampling of ‘Street’ Drug Exhibits” <i>Journal of Forensic Sciences</i>, JFSCA, Vol. 38, No.3, May 1993, pp. 641-648.</p> <p>5.2.2 SWGDRUG Recommendations, 2nd ed. “PART III A - Methods of Analysis/Sampling Seized Drugs for Qualitative Analysis”, February, 2006.</p> <p style="text-align: right;">♦ End</p>	